LITERATURE SURVEY

Survey Paper:1

Paper Name: An automated low cost IoT based Fertilizer Intimation System for smart agriculture

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Agriculture [1] is the major occupation that contributes to overcoming food scarcity. It will be successful only when the farmersare able to produce high yield in their cultivation. Lower the yield of cultivation in agricultural field [2] effects the revenue generation of the developing country. One of the major reasons for low yield is the improper use of fertilizers by the farmers. The fertilizers can be added at appropriate quantity during the lack of nutrients in the soil. Hence, testing the soil for the nutrients available for the plant growth is inevitable before adding fertilizer. Soil testing is widely conducted to estimate the availability of nutrients present in the soil for plant growth. Determination of fertilizer recommendation [3] for effective plant growth is the main outcome of soil testing.

Reference:

[1] Luis Ruiz-Garcia, Loredana Lanadei, The role of RFID in agriculture,

applications, limitations & changes, J. Comput. Electron. Agric. (2017) 42–50.

[2] Tamoghna Ojha, Sudip Misra, Narendra, WSN for agriculture: state of the art

in practice and future challenges, J. Comput. Electron. Agric. (2015) 66–84.

[3] E. Ben-Dor, A. Banin, Near infrared analysis as a rapid method to

simultaneously evaluate several soil properties, Soil Sci. Soc. Am. J. (1993)

364–372.

Survey Paper:2

Paper Name: IoT Based Real Time Soil Nutrients Detection

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Agriculture sector plays key role for India's gross domestic product (GDP). Risk Factors such as economic conditions, bad weather conditions, Human resources, labor cost are the barriers for growth of agriculture sector. But, Due to population explosion it is necessary to increase the crop yield. [9]. To improve the yield, soil quality must be better. So, farmers need to do soil analysis, before crop planning. Soil pH is prominent factor for fertilizer quantity inthe specific area of the field. Nutrients in Soil and Soil pH are chemically, physically and biologically responsible parameters for efficient crop production. [12] Crop specific requirements such as soil Ph, potassium, nitrogen can be fulfilled by adding the deficient component. Depending on the weather and previous crop and several components discussed in [11] the soil quality may differ within field. Hence the soil quality analysis is helpful for growing plants in healthy conditions.

Reference:

[1] P P. Sharma and D. V. Padole, "Design and implementation soil analyser using IoT," 2017 International Conference on Innovations in Information, Embedded and Communication Systems (ICIIECS), Coimbatore, 2017, pp. 1-5, doi: 10.1109/ICIIECS.2017.8275947

[2] M. M. Tahat, K. M. Alananbeh, Y. A. Othman, and D. I. Leskovar, "Soil Health and Sustainable Agriculture," Sustainability, vol. 12, no. 12, p. 4859, Jun. 2020.

[3] Dora Neina, "The Role of Soil pH in Plant Nutrition and Soil Remediation", Applied and Environmental Soil Science, vol. 2019, Article 5794869, 9 pages, 2019. https://doi.org/10.1155/2019/5794869